



# Energy Policy Update

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The Energy Policy Update electronic newsletter is published by the Arizona Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by community outreach personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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## ARIZONA-RELATED

### ACC Staff Dislikes APS Net Meter Plan

[Energy Prospects West, Oct. 15] A report by Arizona Corporation Commission staff recommends rejecting two proposals submitted by Arizona Public Service that would change the way the utility's solar net-metering customers are compensated. APS says the changes are needed because the program's current structure isn't fair to all of its customers. "Under current rules, rooftop solar customers benefit from a reliable grid, but pay little to nothing for their use of it," APS said in the introduction of its two proposals. The introduction adds that those who don't install rooftop solar pay higher electricity rates to subsidize those who do install rooftop solar, and "as the number of customers installing solar goes up, it will drive rates even higher for non-solar customers, making the problem worse." To address the issue, APS proposed charging net-metering customers a grid-usage fee, or alternately, a bill credit option, in which net-metering would be replaced by a bill credit to net-metering customers for the energy they generate, at a price set by the ACC and based on the rates APS pays its other generators for power.

### Arizona Utility Tries Storing Solar Energy for Use in the Dark

[New York Times, Oct. 17] When it snowed in Flagstaff, Ariz., recently, thousands of people woke up and turned up their electric heating, and Arizona Public Service saw electricity demand reach a morning peak. To meet the demand, the company used the previous afternoon's sunshine. In a closely watched new solar project called Solana, the energy is gathered in a three-square-mile patch of desert bulldozed flat near Gila Bend, about 50 miles southwest of Phoenix. A sprawling network of parabolic mirrors focuses the sun's energy on black-painted pipes, which carry the heat to huge tanks of molten salt. When the sun has set, the plant can draw heat back out of the molten salt to continue making steam and electricity. The emerging technology is one way that the utility industry is trying to make electricity from the sun available even when it is not shining, overcoming one of the major shortcomings of solar power.

### First Solar to Build 250mw Power Plant in California for NextEra Energy Resources

[Business Wire, Oct. 16] Tempe, AZ – First Solar, Inc. (Nasdaq: FSLR) announced today it has entered into an agreement to construct a 250 megawatt (MW)<sub>AC</sub> solar

power plant in Riverside County, California, for a subsidiary of NextEra Energy Resources, LLC. The McCoy Solar Energy Project will be located on approximately 2,300 acres of mostly public land provided by the Bureau of Land Management (BLM) approximately 13 miles northwest of Blythe, California. Under the agreement, First Solar will provide Engineering, Procurement and Construction services, using First Solar's cadmium telluride (CdTe) photovoltaic thin-film modules. The project is located near the 550MW<sub>AC</sub> Desert Sunlight Solar Farm, jointly owned by a subsidiary of NextEra, GE Energy Financial Services, and Sumitomo Corporation of America, currently under construction by First Solar. An affiliate of NextEra Energy Resources also previously purchased two projects built by First Solar in Canada.

#### **Navajo Lawmakers Take Up Energy-Related Bills**

[Arizona Daily Sun, Oct. 16] WINDOW ROCK — Navajo lawmakers have approved a \$4 million appropriation to a tribal company set up to purchase a coal mine in northwestern New Mexico. The vote Wednesday came during a special session of the Navajo Nation Council in Window Rock. The bill will give an initial infusion of cash to the Navajo Transitional Energy Company, LLC., if tribal President Ben Shelly also signs off on it. Shelly has said he will not support the purchase of the Navajo Mine from BHP Billiton if lawmakers don't approve an update of the tribe's 1980 energy policy. A bill to do so also is on the council's agenda Wednesday. The measure states that coal would remain a key part of the tribe's energy future. It says renewable energy also will be developed.

#### **Phoenix Developer Set to Build International Trade Center in Casa Grande**

[Inside Tucson Business, Oct. 17] CASA GRANDE – A Valley developer is set to break ground here on a 1.7 million-square-foot center allowing manufacturers from around the world to market their wares to other businesses. PhoenixMart, modeled on similar ventures in Dubai and China, aims to attract about 2,000 vendors from industries including automotive, hospitality and electronics when it opens a year from now. "With a lot of manufacturing going other places, it was time to bring that concept back to America in the terms of a permanent place where basically domestic and international business can occur," said Robert Cerrone, chief information officer at Scottsdale-based AZ Sourcing, parent company of PhoenixMart. The project will cost about \$150 million, he said. AZ Sourcing purchased the nearly 600 acres land in August 2011, and Casa Grande initially approved design plans for the project in January 2012, Cerrone said. He used the example of a Las Vegas hotel to illustrate how business-to-business transactions would occur at PhoenixMart. The hotel's purchasing agent could furnish the entire building from linens to light fixtures with products from PhoenixMart's vendors, he said. "You'll be able to source it under one roof," Cerrone said. With so many distributors and wholesalers, tenants could work together to create new products to suit specific customers' needs, he said. Foreign companies will account for about a third of PhoenixMart's tenants, Cerrone said.

#### **Phoenix Engineer Creates \$6,800, 84 MPG, American-Made 'Car'**

[Phoenix Business Journal, Oct. 14] Paul Elio's entrepreneurial dream is all about two numbers — \$6,800 and 84 miles per gallon. Elio is founder and CEO of Phoenix-based Elio Motors. He's also an engineer with experience in the auto industry and was CEO of Tempe-based ESG Engineering. For the past five years, Elio has been working to develop a new ultra-high gas mileage, inexpensive vehicle — called the Elio — that will be manufactured in Louisiana. He said the idea was sparked by the record run-up in oil prices in the summer of 2008.

#### **SRP Collecting More EV Data**

[Fierce Energy, Oct. 15] As part of its green fleet program and after the clear success of its electric vehicle demonstration project, Salt River Project (SRP), the country's third largest public utility, is increasing its line of new-technology vehicles. Currently, SRP has five Chevy Volts with a total of 15 green vehicles to be leased by 2014. "The initial five Chevy Volts were added to SRP's fleet as part of a demonstration project

with the Electric Power Research Institute (EPRI) to help determine the impact of electric vehicles on the Valley grid," said Jim Wood, SRP's director of transportation. The electric vehicles are being rotated through the company to get a wide variety of driving distances and habits. As part of the program, an OnStar system will collect data such as drive time, state of charge, charging details, trip routes and charging locations. In the same vein, Ford's MyFord mobile app will collect rich data for the company on employee driving and charging habits, with the goal of improving all-electric driving and charging performance. The app also provides drivers and fleet managers with real-time battery charge status, a vehicle locator and value charging, which allows a car to automatically recharge during lower-cost, off-peak electricity rates, when there is less strain on the electrical grid.

#### **Thanks for the (Water) Savings**

[Eastern Arizona Courier, Oct. 17] SAFFORD — People are so busy these days trying to make our communities better places to live that they often forget to thank those who make a difference. In this case, the people making the difference are 90 percent of Safford water users, according to Safford City Manager David Kincaid. When the water emergency was called last year, average use per person was 130 gallons of water per day. With 22,000 users, some on the lower end of the usage scale and some on the much higher end, that was adding up to about 4 million gallons per day. With a stated goal of reducing use by 7.5 percent by the year 2020, the city of Safford is encouraged that water users have already managed to reduce by 7 percent. In fiscal year 2011-12, water use was reduced by 7,634,670 gallons. For fiscal year 2012-13, local residents revved up their conservation engines and managed to reduce use by 62,419,200 gallons. Councilor Richard Ortega said he believes it is important that people are acknowledged when they make sacrifices as so many local residents have.

#### **VOC Seeks No-Penalty Opt-Out on Smart Meters**

[Verde Independent, Oct. 17] The Village of Oak Creek's Big Park Regional Coordinating Council unanimously approved a resolution Oct. 10 that asks the Arizona Corporation Commission to allow APS customers to opt out of the smart meter program without penalty. APS is at the tail end of its deployment of 1.2 million smart meters in Arizona, replacing analog meters that need to be read manually. The utility has requested the ACC allow them to charge analog customers \$75 initially and an additional \$30 per month. A representative from Sedona Smart Meter Awareness, a nonprofit organization that has been educating the public on the possible negative health effects of smart meters, gave a presentation during the Big Park Regional Coordinating Council's Sept. 19 meeting. The group has given similar presentations to Sedona and Clarkdale, though Clarkdale has yet to take any action on the issue. Sedona members agreed to send a letter to the ACC asking that customers be allowed to opt out without the fee.

### **ALTERNATIVE ENERGY AND EFFICIENCY**

#### **Intermountain Healthcare Saves 82% on Energy Costs**

[Energy Manager Today, Oct. 16] Intermountain Healthcare has selected the Coolerado M50 line of air conditioners as it continues its aggressive energy management program. Intermountain has spent about \$3.5 million on its energy management program and has already recouped \$2 million in energy cost savings.

The company says every dollar of energy savings equates to saving \$20 dollars overall. The company says the selection of Coolerado is a continuation of this program. Coolerado shows an 88 percent decrease in environmental impact with its air conditioners owning an Energy Efficiency Rating of about 42 versus 13 to 18 for a typical cooling unit, says the company. Intermountain predicts a full return on investment in less than five years and the fact that Coolerado uses 100 percent fresh outside air that's filtered before it is cooled means fewer germs, less dust, pollen, and allergens. By utilizing Coolerado's M50s, Intermountain will be exceeding American

Society of Heating, Refrigerating, and Air-Conditioning Engineers' guidance for operating rooms, which prescribes changing the air out 4 times per hour.

#### **More Bargain Prices for Wind Energy: This Time in Oklahoma**

[SustainableBusiness.com News, Oct. 15] Public Service Company of Oklahoma is buying three times the wind energy it originally planned because of "extraordinary pricing opportunities," it says. Buying 600 megawatts of wind energy will save the utility an estimated \$53 million in the first year alone and even more after that, it says, while providing electricity for 200,000 homes. Prices for wind energy are 50% lower than last year in Oklahoma - less than coal or natural gas. "With these long-term power purchase agreements, we're adding a significant amount of Oklahoma wind energy, bringing more diversity to our fuel mix, and doing so at a price that will provide substantial savings for our customers," says Stuart Solomon, President. The utility signed power purchase agreements for 200 MW of energy from three Oklahoma wind farms under development: Balko Wind Project (300 MW total); Seiling Wind Project and Goodwell Wind Project - deliveries begin by 2016.

#### **SolarCity Eyes 90 Percent Increase in Installed Solar Capacity in 2014**

*SolarCity eyes 90 percent increase in installed solar capacity in 2014*

[Electric Light & Power, Oct. 17] California-based rooftop solar energy provider SolarCity Corp. said its leadership expects to increase its annual installed capacity nearly 90 percent in 2014. SolarCity expects to deploy as much as 525 MW of solar photovoltaic installations in 2014 — up from about 278 MW in 2013.

#### **Solar Steam Augmentation: A Sensible Alternative to PV**

[Electric Light & Power, Oct. 16] After years of being poised for rapid growth, the opportunities for concentrated solar power (CSP) are multiplying fast. Analysts expect that over the next decade there will be a 20-fold increase in CSP generation, with several factors driving the increased interest. Some solar power producers are benefitting because solar's cost is better understood. Traditionally measured cost of solar power production has decreased, but analysts are increasingly factoring in volatile fuel prices, impact to the grid and the environmental costs of such things as land use, water use and fossil fuel emissions. CSP offers tremendous opportunities for local industrial development in a fragile economy. Many solar steam generators are made with standard materials and can be rapidly deployed using low-cost, locally-sourced manufacturing processes and materials. Increased investment from global energy leaders, including Alstom, AREVA, Bechtel and General Electric (GE), removes barriers and builds trust. CSP companies can now reliably offer the full package of necessary services and guarantees, from technology leadership to engineering, procurement and construction services to operation and management expertise. CSP technologies are mature, with more than 1 gigawatt (GW) of installed capacity, and many having undergone rigorous proof-of-concept testing in real-life situations. Perhaps most importantly, demand continues to grow as utilities are pressured to reduce emissions in the near term without significant capital investment. CSP technologies effectively addresses these concerns, offering cost-effective and quick-to-market opportunities for utilities to increase the fossil-fuel plant output without added emissions, or reduce emissions while keeping plant output the same. Since CSP provides solar electricity to the grid that is far more stable than photovoltaic (PV), it enhances grid reliability and can be an important, cost-effective solution for the industry in bridging the carbon gap.

#### **US Consumed Less Energy Last Year than in 1999**

[SustainableBusiness.com News, Oct. 17] Energy efficiency has contributed more to meeting US energy demand than all other resources combined over the past 40 years - more than coal, oil, or nuclear, concludes a report from the Natural Resources Defense Council (NRDC). In fact, the US has found so many innovative ways to save energy that it has more than doubled economic productivity from oil, natural gas, and electricity over that time. According to "America's (Amazingly) Good Energy

News," the US used less energy last year than in 1999 and that's with an economy that grew more than 25% (adjusted for inflation). Factories and businesses are producing substantially more products and value with less energy, the amount of gasoline per mile driven is down, and the cost of all energy services -from lighting to refrigeration - has decreased. "Our home appliances and electronics have been meeting increasingly tough federal efficiency standards. Remarkable, when you consider not only how many more people are using electricity, but how many more gadgets we have at home now that we did at the turn of the century, how many more chargers are plugged into every wall socket," says Peter Lehner of NRDC. "Refrigerators are bigger and fancier than ever, yet they use about one-quarter the energy they did 40 years ago, while the cost of owning and operating a fridge has fallen about 70%", he notes. Because increasing efficiency is far less costly than adding other energy resources like fossil fuels, this is saving the nation hundreds of billions of dollars a year, while helping the US compete worldwide.

#### **U.S. DOE Highlights Wind Energy Financing Model by United Wind Company's New Financing Model Helps Lower Costs for Distributed Wind Projects, Captures First Institutional Capital Investment for WindLease Platform**

[Marketwired, Oct. 15] San Diego, CA – United Wind, a leading provider of distributed-scale wind energy through its WindLease™ platform, today announced the U.S. Department of Energy (DOE) has highlighted its wind energy financing programs within the organization's *2012 Market Report on Wind Technologies in Distributed Applications* report. The detailed report hails the company's financing model for reducing upfront costs while underscoring the value of supporting the development of distributed wind projects in the rural and farm markets. Recently, United Wind secured the first institutional capital investment for a programmatic leasing platform for distributed-scale wind with a tax equity commitment from GSG Energy Finance, an energy equipment leasing company. This will enable the company to deploy up to \$25 million towards wind energy projects in the United States. With this commitment, the company can now effectively monetize the tax incentives created by these projects, in order to realize significant savings for its customers. United Wind's Co-Founder and President, Tal Mamo, explains the value his company brings to the distributed wind loan process.

### **ENERGY/GENERAL**

#### **B.C. LNG Attracts Huge Foreign Investment**

[Energy Prospects West, Oct. 15] British Columbia's chances of establishing an export LNG industry as its next big leading-edge economic driver were strengthened this month when Malaysian Prime Minister Najib Razak announced that his country's state oil company, Petronas, will press ahead with a CA\$36-billion investment to establish an export LNG project in B.C. "I am told this is the largest direct investment in Canada by any country," he told a brief news conference. "This is a very significant landmark decision by Petronas. It is done in the wake of the friendly relations we have and the positive response we received from the Canadian government," he added. Petronas plans to build an LNG processing plant near Prince Rupert at a cost of CA\$11 billion. It will also fund construction of a pipeline for about CA\$5 billion, has already spent CA\$6 billion to purchase Calgary-based Progress Energy as part of its development package, and will also make major upstream investments in northeastern B.C. gas fields and other facilities.

#### **Cracking the Energy Puzzles of the 21st Century**

[New York Times, Oct. 14] Not long ago, Chevron's exploration teams were stuck. Several years earlier they had struck oil at a place called Rosebank, 9,000 feet below the surface of the Atlantic Ocean west of Britain's Shetland Islands. But the usual seismic surveys could not make out the location of the field clearly enough for Chevron to decide where to place wells, which can cost \$100 million or more apiece. So the teams placed 750 sensors on the sea bottom for a close-up scan, then

crunched the huge reams of data with a supercomputer. "It was like putting on the right pair of glasses," said Steve Garrett, the head of Chevron's European technology center in Aberdeen, Scotland. That is just one example of how the energy industry is transforming more rapidly than ever, driven by technology, changing economic conditions and shifts in political power. The changes are reordering both the ways of doing business and the global balance of power in energy. "Expect the unexpected," said Robert N. Stavins, the director of the environmental economics program at Harvard, noting that, among other things, "technological change will be quick, and political change is happening much faster than before." High oil prices, especially the spike to more than \$145 a barrel five years ago, unleashed investment and led to the discovery of new supplies, while technological advances and conservation efforts are likely to ripple through the energy world for decades to come. Some of the rapid changes are taking place within the existing order and others outside it, with winners and losers around the globe on many fronts. Forecasters warned for decades that fossil-fuel production was peaking and that alternate energy sources would increasingly be relied upon. But energy companies have repeatedly defied those predictions by developing new technologies — like Chevron's deep-sea exploration techniques and the rise of fracking as a means of extracting natural gas. And world coal consumption has been growing strongly, especially in Asia, and is now roughly tied with oil as the world's leading fuel. No doubt, the use of wind, solar and hydroelectric power and other less-polluting renewable energy sources will continue to grow, as concerns about global warming increase. Hydroelectric dams are still the largest renewable source, though hydropower is expected to grow more slowly than wind and solar. Research into waves and tidal energy is extensive, notably at the European Marine Energy Center in the Orkney Islands north of the Scottish mainland, though output from such technology at present is not significant.

## **INDUSTRIES AND TECHNOLOGIES**

### **A Staff of Robots Can Clean and Install Solar Panels**

[New York Times, Oct. 14] Richmond, CA — In a dusty yard under a blistering August sun, Rover was hard at work, lifting 45-pound solar panels off a stack and installing them, one by one, into a concrete track. A few yards away, Rover's companion, Spot, moved along a row of panels, washing away months of grit, then squeegeeing them dry. But despite the heat and monotony — an alternative-energy version of lather-rinse-repeat — neither Rover nor Spot broke a sweat or uttered a complaint. They could have kept at it all day. That is because they are robots, surprisingly low-tech machines that a start-up company called Alion Energy is betting can automate the installation and maintenance of large-scale solar farms. Working in near secrecy until recently, the company, based in Richmond, Calif., is ready to use its machines in three projects in the next few months in California, Saudi Arabia and China. If all goes well, executives expect that they can help bring the price of solar electricity into line with that of natural gas by cutting the cost of building and maintaining large solar installations. In recent years, the solar industry has wrung enormous costs from developing farms, largely through reducing the price of solar panels more than 70 percent since 2008. But with prices about as low as manufacturers say they can go, the industry is turning its attention to finding savings in other areas.

### **EBay, Ellison Embrace Microgrids in Threat to Utilities**

[Bloomberg, Oct. 17] Oracle Corp. Chief Executive Officer Larry Ellison plans to build one to power the Hawaiian island he bought last year. EBay Inc. (EBAY) has one to run a data center. The University of California at San Diego and the federal government have invested tens of millions of dollars in the technology. Microgrids are emerging as a credible threat to the dominance of America's 100-year-old-plus utility monopoly. The small-scale versions of centralized power systems, once just used against blackouts, are now gaining thousands of customers as homeowners in states with high power costs turn to them as a way to manage rooftop solar systems, cut electricity bills and, in some cases, say goodbye to their power companies. The

systems use computer software and remote measuring devices to control energy sources such as rooftop solar panels and natural gas-fueled power generators. They allow a home or business owner, a college systems engineer or a farmer on a mountainside to generate, distribute and regulate their locally produced power with an ease and sophistication that only utilities had a few years ago. Not much of a factor a decade ago, microgrids are expected to explode into a \$40 billion-a-year global business by 2020, according to Navigant Research, a clean-technology data and consulting company. In the U.S., about 6 gigawatts of electricity -- enough to power as many as 4.8 million homes -- will flow through microgrids by 2020, Navigant said.

#### **GM to Sell Car Next Year Powered by Gasoline or Natural Gas**

[Reuters, Oct. 16] WASHINGTON – General Motors Co will begin selling a mid-sized sedan next summer that can be powered by either gasoline or compressed natural gas, the U.S. automaker's chief executive said on Wednesday. The 2015 Chevrolet Impala, GM's first car powered by natural gas, will feature a powertrain that switches from compressed natural gas to gasoline seamlessly and has a total driving range of up to 500 miles, Dan Akerson said in a speech to be delivered at an energy summit in Washington. The car, which will have one fuel tank for compressed natural gas and a second one for gasoline, will be sold to both retail and fleet customers. Natural gas is a cleaner-burning, less costly fuel than gasoline, and vehicles powered by compressed natural gas typically emit 20 percent less greenhouse gases than gas-powered cars, GM said, citing the California Air Resources Board. New techniques unlocking vast reserves of natural gas from shale have produced a boom in U.S. supplies and driven down prices, increasing interest in the fuel.

#### **Midland Cogeneration Venture is Model for America's Energy Future**

[WSGW, Oct. 15] Midland, MI] Midland's Cogeneration Venture natural gas fired power plant is drawing the attention of a national organization promoting clean energy. The Pew Charitable Trusts Clean Energy Program Director Phyllis Cuttino says the MCV's combined heat and power production is a model for U. S. energy production. She says more combined heat and power facilities can create up to one million new, highly skilled jobs and make U.S. manufacturing companies more competitive in a global economy. MCV President Pete Milojevic says the converted nuclear power plant site now produces about 15% of Michigan's energy needs along with supplying Dow Chemical with processed steam and electricity plus a back up steam supply for Dow Corning operations. The company has plans for adding 660-megawatts to its capacity. It's working with Midland Tomorrow, trying to attract new customers to the area.

#### **NREL Debunks 15% Ethanol Blend Car Damage Claims**

[Environmental Leader, Oct. 15] There is no evidence that engines that use gasoline with a 15 percent ethanol component will experience engine failure, according to a report conducted by the National Renewable Energy Laboratory and sponsored by the Renewable Fuels Association. [Review and Evaluation of Studies on the Use of E15 in Light-Duty Vehicles](#) found that the available literature did not show any “meaningful differences” between a 15 percent ethanol blend, or “E15,” and a 10 percent blend, or “E10,” in “any performance category.” Most gasoline sold in the US today is E10. Oil industry groups American Fuel and Petrochemical Manufacturers (AFPM) and the American Petroleum Institute (API) have said that in blends greater than 10 percent — such as E15 — the ethanol renders the blended fuel “incompatible with today’s engines, vehicles and the multi-billion dollar infrastructure” in the US. The NREL findings contradict those of Coordinating Research Council’s engine durability study, published earlier this year. The API- and automaker-funded study found mechanical damage in two recent-model car engines that were run on E15. The study caused controversy when it was released in the wake of the EPA approving the E15 fuel blend for US use.

### **Wind Power in Poor Regions May Increase U.S. Access to Financing**

[Bloomberg Businessweek, Oct. 16] Wind farms may become more attractive to investors because of new guidance that increases the number of banks that may participate in tax-equity financing, according to an industry group. The U.S. Treasury's Office of the Comptroller of the Currency now permits national banks and federal savings associations to make tax-equity investments in wind farms that are in low-income regions and provide a public benefit, according to the American Wind Energy Association. Federal bank regulators last month approved guidelines for banks and developers to back wind farms under Public Welfare Investment authority, a policy that's also used to finance low-income housing. That opens the door to more than 50 banks, up from about a dozen that currently participate in the tax-equity market, said Paul Holshouser, finance policy manager for the Washington-based trade group.

## **LEGISLATION AND REGULATION**

### **API Threatens Suit if U.S. Biofuel Mandate Not Done by November 30**

[Reuters, Oct. 17] WASHINGTON – U.S. oil industry group the American Petroleum Institute told the federal environmental regulator on Thursday that it intends to file a lawsuit if the agency does not finalize 2014 biofuel requirements by the end of November. It was the oil industry's latest move to fight the so-called federal Renewable Fuel Standard (RFS), overseen by the Environmental Protection Agency. It requires fuel blenders to gradually mix more ethanol and biodiesel into the nation's gasoline and diesel supply. Refiners and fuel blenders complain that the requirements in the 2007 law assumed steady growth in gasoline demand and have not been adjusted to its stabilization in recent years. They have been forced to buy costly biofuel credits in order to meet the mandates. The EPA is required by federal law to finalize the 2014 mandate - specifying the amount of biofuels that must be blended into the fuel supply - by November 30. But the agency badly missed the 2013 deadline, which it did not finalize until August.

### **European Commission Proposes Airline Carbon Charge for EU Airspace**

[Reuters, Oct. 16] BRUSSELS – The European Union on Wednesday revived a proposal to charge foreign airlines for emissions over European airspace, drawing the ire of airline groups who say it goes against spirit of a recent global aviation deal and could reignite trade tensions. The proposal from the European Commission to cover the 2014-2020 period represents a retreat from an existing, though frozen, EU law that would require all planes using EU airports to pay for emissions for the full duration of their flights through an Emissions Trading Scheme (ETS). But airline groups said it threatened to unravel a fragile agreement cobbled together during two weeks of tough negotiations at the United Nations' International Civil Aviation Organization (ICAO) in Montreal, which ended this month. EU Climate Commissioner Connie Hedegaard said the bloc was within its rights to regulate aircraft emissions within its own airspace.

## **WESTERN POWER**

### **California's Alternative-Energy Program Under Scrutiny**

*Billions spent on wind, hydrogen, cow manure projects are questioned after some investments go bust, but the program is expected to grow. It could surpass current state support for the UC system.*

[Los Angeles Times, Oct. 13] California is spending nearly \$15 billion to build 10 hydrogen fueling stations, even though just 227 hydrogen-powered vehicles exist in the state today. It's a hefty bet on the future, given that government officials have been trying for nine years, with little success, to get automakers to build more hydrogen cars. The project is part of a sprawling but little-known state program that packs a powerful financial punch: It spent \$1.6 billion last year on a myriad of energy-efficiency and alternative-energy projects. Even as California has scaled back education, law enforcement and assistance to the disabled in this era of financial stress, the energy program has continued unrestrained and is expected to grow significantly in coming

years. State agencies have invested in milk trucks that run on cow manure, power plants fueled by ocean tides and artificial photosynthesis for powering vehicles and buildings. The spending is drawing increasing scrutiny. Some of the energy investments have gone bust, electricity costs have soared, and some economists have disputed the benefits. The legality of some consumer fees that fund the programs also is being challenged in court. The alternative-energy projects are largely financed by small charges on electricity bills or obscure consumer fees that are seldom noticed. The hydrogen fueling stations, for example, will be financed by a \$3 fee on license plates. Proponents of this spending say the funds are working the way they were designed. The money is helping position the state as an international leader in energy-conservation technology, said Michael Peevey, president of the California Public Utilities Commission.

#### **Navajo Nation is Considering Whether to Purchase Coal Mine**

[Daily Times, Oct. 10] Fruitland, NM – Local residents say the hogback west of Navajo Mine was placed there by the Holy People to protect the area from the Ute Mountain. That is according to Norman Benally, spokesman for BHP Billiton New Mexico Coal, which operates the mine. Benally explained the history behind one of the landmarks surrounding the property during a tour of Navajo Mine on Wednesday. As the Navajo Nation continues mulling over purchasing the mine, mining operations are continuing at the 34,000-acre mine, which is located in the chapter lands of Nenahnezad, San Juan, Tiistoh Sikaad and Upper Fruitland. Last October, the Navajo Nation started investigating purchasing the mine after it was approached by its parent company, BHP Billiton Energy Coal. Navajo Mine has existed on the Navajo reservation since the Utah Construction and Mining Co. started strip mining operations to supply coal to units 1, 2 and 3 of the Four Corners Power Plant in 1963. Three years later, an agreement was signed to allow the mine to supply coal to units 4 and 5 of the power plant. This year, an estimated 7 million tons of coal will be sold to Arizona Public Service Co. to operate the power plant. That coal production number could drop by 30 percent after units 1, 2 and 3 cease operation, Benally said. The current coal supply agreement expires in 2016. Production could continue if the tribe purchases the mine and has it operated by the Navajo Transitional Energy Co., in addition to securing a new coal supply agreement. Future production also hinges on APS purchasing Southern California Edison's share of units 4 and 5 of the power plant. Right now, three draglines are operating 24 hours, seven days a week in the Dixon and Gilmore pits, located south of the building that houses engineering and operations personnel.

#### **New Energy Storage Mandate for California Utilities – Big Promise for Cleantech**

[National Law Review, Oct. 18] California's Public Utilities Commission (CPUC) [unanimously approved](#) the first energy storage mandate in the United States. The mandate will compel utilities to use energy storage technologies. It is designed to provide the encouragement needed for the continued development of energy storage technologies, considered by many to be the holy grail of the renewable energy industry. California's RPS program that [required publicly owned utilities](#) to get 33% of their electricity from renewable sources accelerated the state's cleantech economy, and proponents of the energy storage mandate hope that it will do the same. The mandate comes in response to a 2010 California law, [AB 2514](#), which required the CPUC to set specific targets for the usage of energy storage for 2015 and 2020. This mandate should help incent additional funding for companies developing energy storage technologies. If it follows the RPS pattern, utilities will begin issuing requests for bids on energy storage contracts. Companies with contracts in hand will be stronger candidates for additional funding. Given the scale of the storage needed, significant funds will be needed to build out storage capacity, so we can expect to see meaningful dollars flow to expansion and implementation of storage technologies.

#### **Solar Power Industry Spells Out Economic Impact in Colorado**

[Denver Business Journal, Oct. 17] Colorado's solar industry has contributed a total of \$1.42 billion to the state's economy since 2007, according to a new study from The


Solar Foundation, a nonprofit group based in Washington, D.C. The study found that solar power systems have created about 10,700 full-time jobs, and that those employees have earned more than \$534 million since 2007, when solar power systems started proliferating across the state. "Solar energy is ready to play a major role in Colorado's future," said [Rebecca Cantwell](#), director of the Solar Friendly Communities program. "It creates jobs, strengthens local economies, cuts air pollution and conserves our precious water supplies. This report for the first time puts some hard numbers on a lot of those benefits," she said. The study was commissioned by the Solar Friendly Communities program, a partnership led by the Colorado Solar Energy Industries Association (COSEIA), an industry trade group in the state. The partnership's goal is to work with local governments to make it faster, easier and more affordable for citizens to go solar.


### **Texas Finishing Up Transmission Lines to Double Energy from Wind**


[SustainableBusiness.com News, Oct. 18] In April we reported that Texas would be able to double the wind energy that's delivered to its cities because of a \$6.8 billion investment in new transmission lines - now we hear the project is just weeks from being finished. The transmission project will bring the energy to all the state's major cities from wind farms far in the western, windiest part of the state under its Competitive Renewable Energy Zone (CREZ). Nearly 3,600 miles long, the transmission lines will be able to send 18.5 gigawatts of wind across Texas - 50% more than the state's current capacity. The build-out has already spurred huge investments in wind projects since it was approved in 2008, because developers know there will be markets for their energy.


## **ARIZONA STATE INCENTIVES/POLICIES**


### **ARIZONA COMMERCE AUTHORITY (ACA)**

 [Angel Investment Tax Credit Program](#) - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here. [LEARN MORE](#)

 [Arizona Innovation Accelerator Fund](#) - The Arizona Innovation Accelerator Fund Program is an \$18.2 million loan participation program funded through the U.S. Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona. [LEARN MORE](#)

 [Arizona Innovation Challenge](#) - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award \$1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from \$100,000 to \$250,000). [LEARN MORE](#)

 [AZ Fast Grant](#) - Enables Arizona-based technology companies to initiate the commercialization process. Total funds available for this grant round are \$175,000. Maximum awards of \$5,000 and \$20,000 will enable companies to accomplish one of four scopes of work. [LEARN MORE](#)

 [AZ Step Grant](#) - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets. [LEARN MORE](#)

✚ **Commercial/Industrial Solar Energy Tax Credit Program** - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. [LEARN MORE](#)

✚ **Healthy Forest** - The primary goal of the Healthy Forest Enterprise Incentives Program is to promote forest health in Arizona. The program achieves this by providing incentives for certified businesses that are primarily engaged in harvesting, processing or transporting of qualifying forest products. [LEARN MORE](#)

✚ **Job Training Program** offers job-specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round. [LEARN MORE](#)

✚ **Renewable Energy Tax Incentive Program** offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round. [LEARN MORE](#)

✚ **Research and Development Tax Credit** is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue. [LEARN MORE](#)


**Quality Jobs Tax Credit Program** - The primary goal of the Quality Jobs Tax Credit program is to encourage business investment and the creation of high-quality employment opportunities in the state. The program accomplishes this goal by providing tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. [LEARN MORE](#)


✚ **Bonds Administered by the Arizona Commerce Authority**


- **Private Activity Bonds (PAB)** - Tax exempt bond financing, for federal purposes, offers an alternative financing mechanism for certain projects. [LEARN MORE](#)
- **Qualified Energy Conservation Bonds (QECCB)** - Tax credit bonds are available as an alternative financing mechanism for certain green projects. [LEARN MORE](#)

✚ **Federal Programs**

- **Small Business Innovation Research (SBIR) Program** - SBIR is a competitive program that encourages small businesses to explore their technological potential, as well as, providing incentive to profit from its commercialization. [LEARN MORE](#)
- **Small Business Technology Transfer (STTR) Program** - STTR is an important small business program that expands funding opportunities to meet the nation's scientific and technological challenges in the 21st century. [LEARN MORE](#)
- **Work Opportunity** - The Work Opportunity Tax Credit (WOTC) is a federal tax credit of up to \$9,000 that Congress provides to private-sector businesses for hiring individuals from nine target groups who have consistently faced significant barriers to employment. [LEARN MORE](#)

 [Pollution Control Tax Credit](#) - Provides a 10 percent income tax credit on the purchase price of real or personal property used to control or prevent pollution.


 [Renewable Energy Production Tax Credit](#) - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).


 [Sales Tax Exemption for Machinery and Equipment](#)

Exemptions are available for:

1. Machinery or equipment used directly in manufacturing, see [ARS 42-5159\(B\)\(1\)](#).
2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see [ARS 42-5159\(B\)\(4\)](#).
3. Machinery or equipment used in research and development, see [ARS 42-5159\(B\) \(14\)](#).

Questions can be directed to Christie Comanita (602-716-6791).

 [Solar Liquid Fuel Tax Credit](#) - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

 [Database of State Incentives for Renewables and Efficiency \(DSIRE\)](#)

- [Arizona Incentives/Policies](#)
- [Federal Incentives/Policies](#)
- [Solar Policy News](#) - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

## GRANTS

The following solicitations are now available:  
(Click on title to view solicitation)

- [U.S. Dept. of Agriculture - Rural Development Grant Assistance](#)
- [Bio-refinery Assistance Program – Response due October 31, 2013](#)
- [Energy, Power, and Adaptive Systems – Response due November 1, 2013](#)
- [Electronics, Photonics, and magnetic Devices - Response due November 1, 2013](#)
- [USDA Rural Community Development Utilities Programs - Response due November 12, 2013](#)
- [SunShot Initiative - Responses due November 20, 2014](#)
- [Solid Waste Management Grant - Response due December 31, 2013](#)
- [Energy Frontier Research Centers – Response due by January 9, 2014](#)
- [Environmental Sustainability - Response due February 20, 2014](#)
- [Energy for Sustainability - Response due February 20, 2014](#)
- [Environmental Health and Safety of Nanotechnology - Response due February 20, 2014](#)
- [Particulate and Multiphase Processes- Response due February 20, 2014](#)

- Thermal Transport Processes - Response due February 20, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31, 2014
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants– Ongoing
- Rural Business Opportunity Grants– Ongoing
- Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines

## ENERGY-RELATED EVENTS

### 2013

#### [Fall 2013 - Solar and Sustainable Buildings Tours](#) *Living with the Sun - Arizona Style 2013 - Tours of Solar and Sustainable Buildings*

Arizona Governor Jan Brewer has issued a proclamation designating October as Solar and Renewable Energy Month, recognizing the American Solar Energy Society's annual National Solar Tour of solar installations and energy sustainable buildings. As part of the National Tour, events in Arizona include a lecture and local tours on different weekends in different parts of the state. The tours provide an opportunity for the public to see solar and green building examples in person. Tours in Arizona can be experienced throughout the month at the following Arizona locations:

- October 26-27 - [Valley of the Sun - Phoenix Metro Tours](#)
- November 2 - [Pine, AZ](#)
- November 9-10 - [Tucson Innovative Home Tour](#)

#### [NGV Bridge Market Development & Infrastructure Summit 2013](#) October 29-30 Boston, MA

#### [AWEA Wind Energy Fall Symposium](#) November 6-8 Colorado Springs, CO

#### [Expo Industrial Convention](#) Nov. 7-8 Hermosillo, Sonora Mexico

#### [Border Energy Forum XX](#) November 6-9 San Antonio, TX

#### [Power Generation Week](#) November 12-14 Orlando, FL

#### [GreenBuild International Conference and Expo](#) November 20-22 Philadelphia, PA

#### [Ecobuild America 2013](#) December 9-13 Washington, D.C.


#### [Green Building Lecture Series](#) Granite Reef Senior Center Scottsdale, AZ


### 2014

#### [Energy, Utility & Environment Conference](#) February 3-5, 2014 Phoenix, AZ



 [2014 Energy Outlook Conference](#)  
February 4-7, 2014   Washington, DC

 [Green Biz Forum 2014](#)  
February 18-20, 2014   Phoenix, AZ

 [Green Building Lecture Series](#)  
Granite Reef Senior Center   Scottsdale, AZ